COP Hearing Conservation Program Improvement Initiative

Engineering Controls
- Additional or Improved Noise Abatement Equipment
- “Buy Quiet” Effort for New / Replaced Equipment

Improved Sound Level Surveys
- Identify Areas / Equipment for Noise Abatement
- Improved Worker Hazard Communication

*Improve Individual Hearing Protection Device (HPD) Performance*
Individual HPD Improvement

HPD Fit Testing
- Same philosophy as a respiratory fit test
- Determine a person’s specific fit and attenuation
- Ideal for training and HPD selection

HPD Fit Testing Devices
- Available for Several Years
- Previous Equipment / Methods Difficult to Administer
Individual HPD Improvement (cont.)

Scheduling Priority

- Recordable Hearing Losses
- Standard Threshold Shifts
- Similar Exposure Groups with Highest Noise Exposure as Identified by the site Exposure Assessment Plan

Fit Test Administration

- Varied by Facility Logistics
- HSE during Annual Workgroup HSE Training
- Occupational Nurse During Annual Audiometric Exams
- HSE by individual scheduling
Individual HPD Improvement

Two COP Business Units Utilizing different HPD Fit Test Methods

- **E&P**: Quantitative using 3M E.A.Rfit™
- **Transportation**: Qualitative using Howard Light Veripro™
Quantitative HPD Fit Testing

E&P - Alaska
Quantitative HPD Fit Testing (cont.)

3M E·A·Rfit™

Dual-Element Microphone
- External mic opening
- Internal mic opening
- Probed earplugs

E·A·R™ Products for Use with E·A·Rfit™ Validation
- Classic™, Classic™ Small, & Classic™ Plus
- E·A·Rsoft™ Yellow Neons™
- E·A·Rsoft™ FX™
- TaperFit™ 2
- E·Zfit™
- Push-Ins™
- UltraFit™
- Express™ Pod Plugs
- E·A·Rcustom™
Quantitative HPD Fit Testing (cont.)

- Probe & Reference Microphones
- Software and noise source speaker
- Adaptation of Hearing Aid testing technology
- Simultaneously tests range of frequencies in 8 seconds
- No subjective HPD wearer response used.
Quantitative HPD Fit Testing (cont.)

- Worker Shown Their Personal Attenuation Report
- Excellent Communication Tool
- Personal Attenuation Does Not Supersede NRR of HPD
### Quantitative HPD Fit Testing (cont.)

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Qualitative HPD Fit Testing

- Transportation: Pipelines & Terminals
  - Howard Leight - VeriPRO™
Qualitative HPD Fit Testing (cont.)

Howard Leight - VeriPRO™
- Consists of Software and Headset
- Quick Check at 500 Hz For Screening
- Complete Check over 5 Frequencies for a Personal Attenuation Rate (PAR) – Approximately 10 minutes
- Device Not Limited to a Single HPD Manufacturer

Can be performed with some ear plugs using standard audiometer equipment
- Flat speaker muffs interfere with many HPDs
- Can not test Ear Muffs
Qualitative HPD Fit Testing (cont.)

- Individual HPD Fit Report
- Reviewed with Worker Immediately After Test
- Very Effective Communication and Training Tool
Results

• **50-60%**: Obtained NRR without Intervention

• **30%**: Required Refresher Training to Obtain NRR

• **10-15%**: Changed brand/model to Obtain NRR
Questions?